

Remarks

In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

Applicants have canceled claims 8-12, 24, 86-88, and 92 without prejudice. Applicants have added new claims 94-96, which recite the step of "identifying the hypersensitive response elicitor protein or polypeptide" that can achieve the recited result. Descriptive support for these claims appear in the specification, generally, where applicants identify a plurality of hypersensitive response elicitor protein or polypeptides as suitable for such uses, and more particularly in the example where it is demonstrated that the hypersensitive response elicitor HrpN of *Erwinia amylovora* can achieve the recited results. Therefore, no new matter has been entered. Applicants have also added new claims 97-99, which are of substantially similar scope to now canceled claims 86, 88, and 92.

Claims 1-7, 18-23, 25-41, 75-85, 89-91, and 93-99 are pending.

The rejection of claims 1-12, 18-24, 31-36, 75-88, 90, 92, and 93 under 35 U.S.C. § 112 (first paragraph) as lacking written descriptive support is rendered moot with respect to the canceled claims and is otherwise respectfully traversed.

The U.S. Patent and Trademark Office ("PTO") has asserted at page 5 of the office action that descriptive support is lacking for the claim language: "exposing the removed or harvested cutting to condition that, in the absence of said treating, would cause desiccation." Applicants respectfully disagree. It is well established law that *ipsis verbis* support in the specification is not required to satisfy the written description requirement. *See In re Lukach*, 442 F.2d 967, 969, 169 USPQ 795, 796 (CCPA 1971). Applicants submit that descriptive support does indeed exist in the specification as follows: (1) the example and accompanying figures demonstrate that removal of a cutting from a plant and its subsequent storage in a container with water eventually results in desiccation (i.e., treated flowers, exposed to the same conditions, fared much better in resisting desiccation); (2) at page 35, lines 9-16, the specification indicates that desiccation severity can be reduced and that desiccation protection inevitably will depend, at least to some extent, on other conditions such as storage temperatures, light exposure, etc.; (3) at page 5, lines 18-22, the specification indicates that inhibition of desiccation means that the cuttings are less likely to wilt and die before they are received by the retailer, thereby dramatically decreasing losses associated with long transportation rates in less than ideal conditions; and (4) at page 1, line 31 to page

2, line 4, the specification identifies several problem areas associated with cut flower longevity and quality, including long-distance transport from farm to consumer, improper transport and storage temperatures, and undesirable handling practices. It is clear that the present application identifies a number of conditions that would cause desiccation in the absence of the treatment afforded by the present invention. Given the above-noted disclosure, one of ordinary skill in the art would therefore clearly understand that applicants were in possession of the presently claimed invention.

Notwithstanding the above, applicants have amended claims 31 and 81 to strike the step of “exposing”. These claims, like allowed independent claims 25 and 37, recite treatment of harvested (or removed) cuttings. Because none of these claims was rejected over the art of record, the “exposing” step is believed not to be required for patentability of these claims. Thus, regardless of the decision concerning independent claims 1, 18, and 75 which still recite the “exposing step,” claims 31-36, 81-85, 90, and 93 should now be allowable.

For all the above reasons, the rejection of claims 1-12, 18-24, 31-36, 75-88, 90, 92, and 93 under 35 U.S.C. § 112 (first paragraph) is improper and should be withdrawn.

The rejection of claims 1-5, 7, 18-22, 24, 75-79, 86, 88, and 92 under 35 U.S.C. § 103(a) for obviousness over U.S. Patent No. 5,776,889 to Wei et al. (“Wei I”) in view of Laurie et al, *Commercial Flower Forcing: The Fundamentals and Their Practical Application to the Culture of Greenhouse Crops*, pp. 258-259 (1969) (“Laurie”) is rendered moot with respect to the canceled claims and is otherwise respectfully traversed.

Wei I teaches the application of a hypersensitive response elicitor protein or polypeptide to plants whereby the treated plant is rendered disease resistant (i.e., resistant to pathogens). The plants that can be rendered disease resistant include both crop plants and ornamental plants. Wei I provides a number of examples for the treatment of different plants with HrpN of *Erwinia amylovora*, with the treated plants being grown under greenhouse conditions. Nowhere does Wei I teach or suggest the removal or harvesting of cuttings from the treated plants.

Laurie is cited merely for the production of cut flowers from various floriculture plants.

The PTO has taken the position that it would have been obvious to obtain cut flowers from a plant treated in accordance with Wei I, which the PTO asserts would have inherently been desiccation resistant. The PTO asserts motivation to combine the teachings

of Wei I and Laurie given the importance of cut flower crops, and further that there would have been an expectation of success “given *knowledge* that *this* method works on a complete plant as taught by Wei et al. [i.e., Wei I]” (emphasis added).

Applicants disagree for the four reasons identified below.

First, the method taught by Wei I concerns imparting disease resistance to plants and application of the method of Wei I to cut flower crops, in accordance with Laurie, would have allowed one of ordinary skill in the art to expect that the cut flower crops also would have been disease resistant. However, the claimed invention relates not to disease resistance, but instead to a method of inhibiting desiccation of cuttings removed from floriculture crop plants (claim 1), a method of harvesting a cutting from a floriculture crop plant whereby desiccation of the cutting is inhibited and longevity of flower blooms is enhanced (claim 18), and a method of enhancing the longevity of flower blooms on floriculture crop plant cuttings (claim 75). There is simply no *knowledge* provided by Wei I and Laurie, that the presently claimed method works on a complete plant, as suggested by the PTO.

Second, to establish that a reference inherently anticipates a claim, it must be demonstrated that the reference *necessarily* functions in accordance with the limitations of a claim. *See In re Cruciferous Sprout Litigation v. Sunrise Farms*, 301 F.3d 1343, 1349 (Fed. Cir. 2002). The PTO has asserted the plant treated in accordance with Wei I (to render the plant disease resistant) would have inherently resulted in a plant that was desiccation resistant (*see* office action at page 3). That *plants* treated in accordance with Wei I may be rendered desiccation resistant is immaterial. As noted above, the invention of independent claims 1, 18, and 75 are directed to inhibiting desiccation of *cuttings* removed from a treated plant and/or enhancing the longevity of flower blooms on *cuttings* removed from a treated plant. The PTO has failed to demonstrate how Wei I would have necessarily rendered *cuttings* of the treated plants desiccation resistant.

The PTO nonetheless cites to Laurie as evidence that one of ordinary skill in the art would have been motivated to remove cuttings from the disease resistant plants of Wei I. In the case of floriculture crop plants, these plants are grown for their flowers either in cut form or as they exist in a garden setting (i.e., on the plant). Hence, cuttings may or may not be taken from a floriculture crop plant. In other words, the taking of cuttings from a floriculture crop plant is not a necessity but merely an option. The fact that one of ordinary skill in the art may occasionally take a cutting from a disease resistant floriculture crop plant of Wei I is immaterial, because occasional results are not inherent. *See Mehle/Biophile*

Internat'l Corp. v. Selvac Acquisitions Corp., 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1306 (Fed. Cir. 1999). Thus, new claims 97-99 clearly cannot be considered inherently anticipated by Wei I in combination with Laurie given that cuttings from these plants may only occur occasionally.

Because the combination of Wei I and Laurie fail to suggest that cuttings will necessarily be removed from plants of Wei I, and further that the results of the presently claimed invention would necessarily have been achieved, the combination of Wei I and Laurie are deficient in teaching or suggesting each and every limitation of the claimed invention.

Third, it is a well established basis of patent law that new uses of known processes are patentable. See 35 U.S.C. § 101 (2004) ("Whoever invents or discovers any new and useful process ... may obtain a patent therefore...."); 35 U.S.C. § 100(b) (2004) ("The term 'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."). Whether or not a new use of a known process is patentable depends on whether or not the known process is "directed to the same purpose" as previously known processes. See *Bristol-Myers Squibb Co. v. Ben Venue Labs, Inc.*, 246 F.3d 1368, 1376, 58 USPQ2d 1508, 1514 (Fed. Cir. 2001) (emphasis added). In *Bristol-Myers*, the Federal Circuit held that claims directed to methods of treating patients for taxol-sensitive tumors by administering a certain dosage of taxol to a patient over about three hours, either with or without pretreatment of the patient for reduction of hypersensitivity to taxol, were inherently taught by a reference that reported phase I testing of taxol, using dosages and time constraints as claimed, and suggested pretreatment of patients to reduce their hypersensitivity. Importantly, the court noted that the claimed methods were *for the same purpose* as the known process described in the prior art (*id.*), and the claimed methods did not require a particular result of the recited steps (246 F.3d at 1372-73, 1378; 58 USPQ2d at 1514, 1515).

Assuming *arguendo* that the process steps as claimed were identical to the process steps taught or suggested by the combination of Wei I and Laurie (which they are not), the presently claimed invention would still be patentable over these references. Unlike the relationship between the claimed methods and the prior art in *Bristol-Myers*, the presently claimed methods are directed to a *different purpose* as compared to the purpose reported in Wei I. Specifically, the presently claimed methods (of independent claims 1, 18, and 75) are directed to inhibiting desiccation of *cuttings* removed from a treated plant and/or enhancing the longevity of flower blooms on *cuttings* removed from a treated plant. These purposes, or

results, are cited in the body of the claim. Thus, the presently claimed methods satisfy the requirements identified by the Federal Circuit in *Bristol-Myers* for purposes of obtaining patent protection for a new use of a known product or process (i.e., applying a hypersensitive response elicitor protein or polypeptide to plants).

To support its refusal to recognize applicant's earlier presented arguments, the PTO cites to *In re Verdegaal Bros.*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987). At issue in *In re Verdegaal Bros.* was whether a single prior art reference that explicitly teaches all limitations of the claimed process but one, which limitation was inherently present in the process as practiced in the reference, constitutes anticipation. The Federal Circuit held that it does. The result in *In re Verdegaal Bros.* is consistent with the test articulated in *Bristol-Myers* given that the claimed invention at issue in *In re Verdegaal Bros.* was a known process of making fertilizer that was directed to the same purpose (and involved exactly the same process steps) as that disclosed in the anticipating reference. As noted above, and in contrast to both *In re Verdegaal Bros* and *Bristol-Myers*, the claimed invention in the present application is directed to an *entirely different purpose*, recites different process steps, and recites a different result. Therefore, the PTO's reliance on *In re Verdegaal Bros.* is without weight.

Fourth, the PTO's position, as asserted, is one of obviousness of the presently claimed methods of inhibiting desiccation of *cuttings* removed from a treated plant and/or enhancing the longevity of flower blooms on *cuttings* removed from a treated plant over the combination of Wei I and Laurie. The PTO's position is essentially that one of ordinary skill in the art, when practicing the teachings of Wei I (for producing a disease resistant plant) and Laurie (removing cut flowers from floriculture crops), would have necessarily (but unwittingly) practiced the claimed invention. However, it is well established law that whether a feature is inherent in a prior art reference is *irrelevant* to the question of obviousness. It has been repeatedly stated by the Court of Claims and Patent Appeals, predecessor of the Federal Circuit, that a feature "which may be inherent is not necessarily known" and that "obviousness *cannot* be predicated on what is unknown." *In re Shetty*, 566 F.2d 81, 86, 195 USPQ 753, 757 (CCPA 1977) (quoting from *In re Spormann*, 363 F.2d 444, 448, 150 USPQ 449, 452 (CCPA 1966) (emphasis added)). In this case, the unknown features—desiccation resistance and flower longevity for cuttings removed from the treated plant—were not known in the art prior to the present invention. Importantly, the PTO has failed to cite anywhere in the references where these features were *known* by Wei I or Laurie.

Because obviousness cannot be established based on what is unknown, the presently claimed invention could *not* have been obvious over the combination of Wei I and Laurie.

With respect to newly introduced claims 94-96, applicants submit that these dependent claims recite limitations that are neither taught nor suggested by Wei I (of Laurie for that matter). In particular, new claims 94-96 require “identifying” (prior to the step of treating) the hypersensitive response elicitor protein or polypeptide that can “inhibit desiccation of a cutting removed the treated plant” (claim 94), “inhibit desiccation of and enhance the longevity of flower blooms on a cutting harvested from the treated plant” (claim 95), or “enhance the longevity of flower blooms on a cutting harvested from the treated plant” (claim 96). Because the combination of Wei I and Laurie fail to teach or suggest some basis for identifying (i.e., screening) hypersensitive response elicitor proteins or polypeptides for achieving the results of the claimed method, the combination of these references cannot be said to teach or suggest the identification of such elicitors.

For all these reasons, the rejection of claims 1-5, 7, 18-22, 24, 75-79, 86, 88, and 92 for obviousness over Wei I in view of Laurie is improper and should be withdrawn.

The rejection of claims 8-12 under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) for obviousness over, Wei I is rendered moot by the cancellation of these claims without prejudice.

The provisional rejection of claims 1-5, 7, 75-79, 86, and 92 as being unpatentable under the judicially created doctrine of obviousness-type double patenting over claims 1, 2, 5, 8, 11, 13, 15, 17, and 19 of Wei I is rendered moot with respect to cancelled claims and is otherwise respectfully traversed.¹

The analysis of an obviousness-type double patenting rejection parallels the analysis of an obviousness determination under 35 U.S.C. § 103 (*In re Braat*, 937 F.2d 589, 592-593; 19 USPQ2d 1289, 1292 (Fed. Cir. 1991)), however the analysis is limited to comparing the scope of the claims between the application and the cited patent (see *Manual of Patent Examining Procedure* § 804 (2001)).

Claim 1 of Wei I recites a method of imparting pathogen resistance to plants that includes the step of “applying externally to a plant a hypersensitive response eliciting

¹ Applicants note that the office action at page 2 identifies this rejection as a provisional rejection. Applicants believe this was a typographical error and have treated the rejection as an obviousness-type double patenting rejection.

bacterium, which does not cause disease in that plant, or a hypersensitive response eliciting polypeptide or protein, wherein the hypersensitive response eliciting polypeptide or protein corresponds to that derived from a pathogen selected from the group consisting of *Erwinia amylovora*, *Erwinia chrysanthemi*, *Pseudomonas syringae*, *Pseudomonas solanacearum*, *Xanthomonas campestris*, and mixtures thereof.” None of claims 2, 5, 8, 11, 13, 15, 17, and 19 of Wei I specify that the recited plant (treated with the hypersensitive response eliciting bacterium or the hypersensitive response eliciting polypeptide or protein) has cuttings that are removed or harvested therefrom, let alone that the cuttings are exposed to conditions that, in the absence of said treating, would cause desiccation of the cutting or at least one flower thereon. In essence, the *claims* of Wei I fail to teach or suggest both performance of all steps as presently recited, and achieving the recited results (i.e., desiccation resistance and/or enhanced flower longevity).

The PTO has suggested that the term “conditions that would cause desiccation” is unclear. For substantially the same reasons noted above in response to the rejection under 35 U.S.C. 112, applicants submit that the claim language is abundantly clear to one of ordinary skill in the art. The claims of Wei I fail to teach or suggest such a step.

The PTO has also suggested that it would have been obvious to harvest a cutting from a floriculture crop. Even assuming *arguendo* this is true, it certainly would not have been obvious, as noted above, to achieve the claimed result. Because the claims of Wei I fails to teach or suggest the result of the presently claimed process, which as noted above is drawn to an *entirely different purpose* than the process of Wei I (and involved different steps neither taught nor suggested by the claims of Wei I, it certainly would not have been obvious to perform the presently claimed methods of inhibiting desiccation of cuttings removed from plants (claim 1) and enhancing the longevity of flower blooms on plant cuttings (claim 75).

It also appears that the PTO relies upon the purported inherency of desiccation resistance and enhanced longevity of flower blooms. For the reasons noted above, the inherency of these features have no place in a rejection premised upon obviousness.

For all of the above reasons, applicants submit that the obviousness-type double patenting rejection of claims 1-5, 7, 75-79, 86, and 92 is improper and should be withdrawn.


The provisional rejection of claims 1-5 and 7-12 as being unpatentable under the judicially created doctrine of obviousness-type double patenting over claims 1-20 of copending application U.S. Patent Application Serial No. 09/835,684 to Wei et al. (“Wei II”)

is rendered moot with respect to canceled claims 8-12 and is respectfully traversed with respect to claims 1-5 and 7. If the provisional rejection is the only remaining rejection of the claimed subject matter, applicants will at that time either submit a terminal disclaimer or request that the provisional rejection be withdrawn to permit issuance as a patent (*see Manual of Patent Examining Procedure* § 804 at page 800-19 (August 2001)). Therefore, applicants respectfully request that this provisional rejection be held in abeyance until the application is otherwise identified as allowable. Applicants request that the Examiner contact the undersigned representative by telephone to discuss this rejection should it be the only remaining rejection upon consideration of this response.

In view of the all of the foregoing, applicants submit that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

Date: March 3, 2004


Edwin V. Merkel
Registration No. 40,087

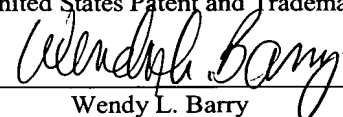
NIXON PEABODY LLP
Clinton Square, P.O. Box 31051
Rochester, New York 14603
Telephone: (585) 263-1128
Facsimile: (585) 263-1600

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

- ☒ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Non-Fee Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450
- ☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at _____

March 3, 2004
Date


Wendy L. Barry